

Worksheet 9.2: Areas of Parallelograms, Triangles, and Rhombuses

Exercises 1- 8 refer to triangles. Complete the table below.

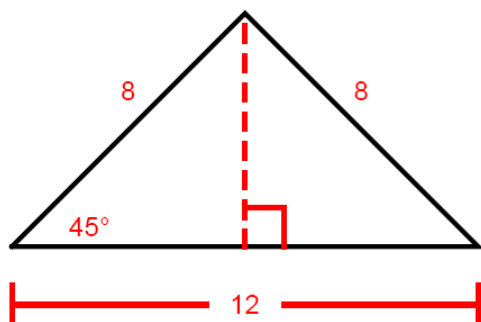
	1.	2.	3.	4.	5.	6.	7.	8.
b	10	6.8	30		$5\sqrt{2}$	$4\sqrt{3}$	$5k$	
h	8	12.7		12	$3\sqrt{2}$	$5\sqrt{6}$		$4\sqrt{2}$
A			96	42			30km	$36\sqrt{2}$

Exercises 9 - 16 refer to parallelograms. Complete the table below.

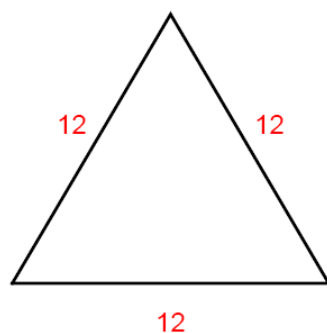
	9.	10.	11.	12.	13.	14.	15.	16.
b	12	16.4	36		$5\sqrt{6}$	$6\sqrt{3}$	$10x$	
h	18	10.6		$2\sqrt{3}$	$3\sqrt{4}$	$2\sqrt{6}$		$8\sqrt{2}$
A			144	48			$40x$	$96\sqrt{2}$

Find the area of each figure below.

17.



18.



$$A = bh$$

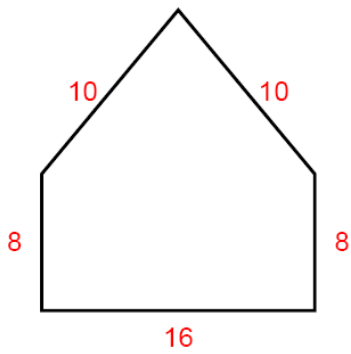
$$A = \underbrace{5\sqrt{6}} \cdot \underbrace{3\sqrt{4}} = 15\sqrt{24}$$

$$A = bh$$

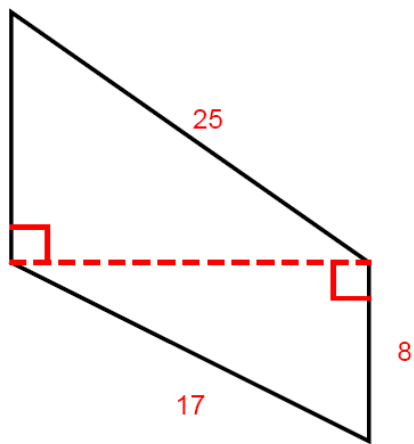
$$\frac{40xy = 10xh}{10x \quad 10x}$$

$$4y = h$$

19.



20.



21. A parallelogram has sides 12 cm and 20 cm long. If the shorter altitude is 6 cm long, how long is the other altitude?

22. Find the area of a rhombus with perimeter 80 and diagonal 12.

23. Find the area of an equilateral triangle with height 6.

24. Find the area of a 30° - 60° - 90° triangle with hypotenuse 12.

25. A rhombus has area 84 and one diagonal of length 12. Find the length of the other diagonal.

26. The area of an equilateral triangle with side length s can be found using the formula $A = \frac{s^2\sqrt{3}}{4}$. Show why this works with a diagram.

